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DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS
SAM. L. ROGERS, DIRECTOR

CENSUS OF MANUFACTURES: 1914

CAST-IRON PIPE

Prepared under the supervision of W. M. STEUART, Chief Statistician for Manufactures

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WASHINGTON
GOVERNMENT PRINTING OFFICE
1917

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EXPLANATION OF TERMS.

Scope of census.—Census statistics of manufactures are compiled primarily for the purpose of showing the absolute and relative magnitude of the different branches of industry covered and their growth or decline. Incidentally, the effort is made to present data throwing light upon character of ownership, size of establishments, and similar subjects. When use is made of the statistics for these purposes it is imperative that due attention should be given to their limitations, particularly in connection with any attempt to derive from them figures purporting to show average wages, cost of production, or profits.

The census did not cover establishments which were idle during the entire year or whose products were valued at less than $500, or the manufacturing done in educational, eleemosynary, and penal institutions.

Period covered.—The returns relate to the calendar year 1914, or the business year which corresponded most nearly to that calendar year, and cover a year's operations, except for establishments which began or discontinued business during the year.

The establishment.—As a rule, the term "establishment" represents a single plant or factory, but in some cases it represents two or more plants which were operated under a common ownership or for which one set of books of account was kept. If, however, the plants constituting an establishment as thus defined were not all located within the same city or state, separate reports were secured in order that the figures for each plant might be included in the statistics for the city or state in which it was located.

Influence of increased prices.—In comparing figures for cost of materials, value of products, and value added by manufacture in 1914 and 1909 with the corresponding figures for earlier censuses, account should be taken of the general increase in the prices of commodities during recent years. To the extent to which this factor has been influential the figures fail to afford an exact measure of the increase in the volume of business.

Persons engaged in the industry.—The following general classes of persons engaged in the industry distinguished: (1) Proprietors and firm members, (2) salaried officers of corporations, (3) superintendents and managers, (4) clerks (including other subordinate salaried employees), and (5) wage earners. In the reports for the censuses of 1904 and 1899 these five classes were shown according to the three main groups: (1) Proprietors and firm members, (2) salaried officials, clerks, etc., and (3) wage earners. In comparative tables covering the census of 1904 it is of course necessary to group the figures according to the classification that was employed at the earlier censuses.

The number of persons engaged in the industry, distributed by sex, and, in the case of wage earners, also by age (whether under 16 or 16 and over), was reported for a single representative day. The 15th of December was selected as representing for most establishments normal conditions of employment, but where this date was not a representative day an earlier date was chosen.

In the case of employees other than wage earners the number thus reported for the representative date has been treated as equivalent to the average for the year, since the number of employees of this class does not ordinarily vary much from month to month. In the case of wage earners the average has been obtained in the manner explained in the next paragraph.

In addition to the more detailed report by sex and age of the number of wage earners on the representative date, a report was obtained of the number employed on the 15th of each month, without distinction of sex or age. From these figures the average number of wage earners for the year has been calculated by dividing the sum of the numbers reported for the several months by 12. The average thus obtained approximates the number of wage earners that would be required to perform the work done if all were constantly employed during the entire year. Accordingly, the importance of the industry as an employer of labor is believed to be more accurately measured by this average than by the number employed at any one time or on a given day.

In order to determine as nearly as possible the sex and age distribution of the average number of wage earners for the industry as a whole, the per cent distribution by sex and age of the wage earners reported for December 15, or the nearest representative day, has been calculated from the actual number reported for that date, the percentages thus obtained have been applied to the average number of wage earners for the year in the industry to determine the average number of men, women, and children employed.

Salaries and wages.—Under these heads are given the total payments during the year for salaries and wages, respectively. The Census Bureau has not undertaken to calculate the average annual earnings of either salaried employees or wage earners. Such averages would possess little real value, because they would be based on the earnings of employees of both sexes, of all ages, and of widely varying degrees of skill. Furthermore, so far as wage earners are concerned, it would be impossible to calculate accurately even so simple an average as this, since the number of wage earners fluctuates from month to month. The Census Bureau's figures for wage earners, as already explained, are averages based on the number employed on the 15th of each month and represent the approximate number who would be required to perform the work if all were continuously employed during the year, whereas the actual number to whom the total wages were paid would be larger.

Prevailing hours of labor.—No attempt was made to ascertain the number of wage earners working a given number of hours per week. The inquiry called merely for the prevailing practice followed in each establishment. Occasional variations in hours in an establishment from one part of the year to another were disregarded, and no attention was paid to the fact that a limited number of wage earners might have hours differing from those of the majority. All the wage earners of each establishment are therefore counted in the class within which the establishment itself falls. In most establishments, however, all or practically all the wage earners work the same number of hours, so that the figures give a substantially correct representation of the hours of labor.

Capital.—The instructions on the schedule for securing data relating to capital were as follows:

> The answer should show the total amount of capital, both owned and borrowed, on the last day of the business year reported. All the items of fixed and live capital may be taken at the amounts carried on the books. If land or buildings are rented that fact should be stated and no value given. If a part of the land or buildings is owned, the remainder being rented, that fact should be so stated and only the value of the owned property given. Do not include securities and loans representing investments in other enterprises.

These instructions were identical with those employed at the census of 1909. The data compiled in respect to capital, however, at both censuses, as well as at all preceding censuses of manufactures, have been so defective as to be of little value except as indicating very general conditions. In fact, it has been repeatedly recommended by the census authorities that this inquiry be omitted from the schedule. While there are some establishments whose accounting systems are such that an accurate return for capital could be made, this is not true of the great majority, and the figures therefore do not show the actual amount of capital invested.

Materials.—The statistics as to cost of materials relate to the materials used during the year, which may be more or less than the materials purchased during the year. The term "materials" covers fuel, rent of power and heat, mill supplies, and containers, as well as materials which form a constituent part of the product.

Rent and taxes.—The taxes include internal revenue, corporation income tax, and state, county, and local taxes. In some instances the amount of the corporation tax for 1914 had not been ascertained when the report was prepared and the amount paid for 1913 was given.

Value of products.—The amounts given under this heading represent the selling value or price at the factory of all products manufactured during the year, which may differ from the value of the products sold.

Value added by manufacture.—The value of products is not a satisfactory measure of either the absolute or the relative importance of a given industry, because only a part of this value is actually created by the manufacturing processes carried on in the industry itself. Another part, and often by far the larger one, represents the value of the materials used. For many purposes, therefore, the best measure of the importance of an industry is the value created by the manufacturing operations carried on within the industry. This value is calculated by deducting the cost of the materials used from the value of the products. The figure thus obtained is termed in the census reports "value added by manufacture."

Cost of manufacture and profits.—The census data do not show the entire cost of manufacture, and consequently can not be used for the calculation of profits. No account has been taken of interest or depreciation, rent of offices and buildings other than factory or works, insurance, ordinary repairs, advertising, and other sundry expenses.

Primary horsepower.—This item represents the total primary power generated by the manufacturing establishments plus the amount of power, principally electric, rented from other concerns. It does not cover the power of electric motors taking their current from dynamos driven by primary power machines operated by the same establishment, because the inclusion of such power would obviously result in duplication. The figures for primary horsepower represent the rated capacity of the engines, motors, etc., and not the amount of power in actual daily use, since in most cases an engine or motor is not required to deliver continuously its full rated horsepower.

Fuel.—Statistics of the quantity of fuel used are shown only for anthracite and bituminous coal, coke, oil, and gas. They relate to the quantity used during the year, which may be more or less than the quantity purchased. As only the principal varieties of fuel are shown, no comparison can be made with the total cost of all fuel.

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CAST-IRON PIPE.

SUMMARY AND ANALYSIS.

Scope of the industry.—Establishments engaged primarily in the manufacture of cast-iron pipe were first grouped as an industry at the census of 1909. Prior thereto they were included with those for foundry and machine-shop products, which comprised iron foundries, boiler shops, and machine shops in general. It is to a large degree a special line of manufacture. The products embrace cast-iron gas pipe, water pipe, culvert pipe, and soil and plumbers' pipe, and cast-iron fittings, comprising junctions, elbows, tees, etc.

Comparative summary for the United States.—Table 1 summarizes the statistics of establishments engaged in the manufacture of cast-iron pipe for 1914 and 1909, and gives percentages of increase.

Table 1

	NUMBER OR AMOUNT.		Per cent of increase,[1] 1909–1914.
	1914	1909	
Number of establishments	59	52	.....
Persons engaged	13,290	12,884	3.2
Proprietors and firm members	8	7	.....
Salaried employees	725	649	11.7
Wage earners (average number)	12,557	12,228	2.7
Primary horsepower	25,864	18,737	38.0
Capital	$26,981,070	$23,110,318	16.7
Salaries and wages	8,112,385	7,427,175	9.2
Salaries	1,036,109	924,837	12.1
Wages	7,075,976	6,502,338	8.8
Paid for contract work	2,572	8,210	−67.5
Rent and taxes (including internal revenue)	167,226	120,900	38.3
Cost of materials	16,930,141	18,881,312	−10.3
Value of products	26,659,365	29,153,723	−8.6
Value added by manufacture (value of products less cost of materials)	9,729,224	10,269,381	−5.3

[1] A minus sign (−) denotes decrease; percentages are omitted where base is less than 100.

The table shows increases in all the items for the five-year period except amount paid for contract work, cost of materials, value of product, and value added by manufacture. The amount paid for contract work depends upon the methods followed and the decrease is no indication of a decrease in the magnitude of operations. The decreases in the other items are due to the depression in the cost of pig iron in 1914. In 1909 the average price per long ton of pig iron in the United States was $16.25, and in 1914, $13.42, resulting in a marked decrease in cost of materials, with a less proportionate decrease in value of products and in value added.

Summary, by states.—Table 2 summarizes the more important statistics of the industry, by states, the states being arranged according to the value of products reported for 1914. Virginia and Tennessee ranked higher than New York—fifth and sixth, respectively—but data for these states can not be shown without disclosing the operations of individual establishments.

More than one-half of the cast-iron pipe manufactured in the United States in 1914 was made in New Jersey and Alabama. These states reported 49.2 per cent of the establishments, 56.6 per cent of the wage earners, and 52.9 per cent of the value of the products, the former state producing 27.6 per cent, and the latter 25.3 per cent of all cast-iron pipe manufactured in the United States.

Table 2

STATE.	Number of establishments.	WAGE EARNERS. Average number.	Per cent distribution.	Rank. 1914	Rank. 1909	Per cent of increase,[1] 1909–1914.	VALUE OF PRODUCTS. Amount.	Per cent distribution.	Rank. 1914	Rank. 1909	Per cent of increase,[1] 1909–1914.	VALUE ADDED BY MANUFACTURE. Amount.	Per cent distribution.	Rank. 1914	Rank. 1909	Per cent of increase,[1] 1909–1914.
United States	59	12,557	100.0	.....	.....	2.7	$26,659,365	100.0	.....	.....	−8.6	$9,729,224	100.0	.....	.....	−5.3
New Jersey	9	3,421	27.2	2	1	4.5	7,352,798	27.6	1	1	−8.1	2,569,097	26.4	2	1	−3.0
Alabama	20	3,696	29.4	1	2	28.4	6,754,103	25.3	2	2	10.8	2,846,846	29.3	1	2	19.1
Pennsylvania	7	1,835	14.6	3	4	27.9	4,550,718	17.1	3	4	28.8	1,255,354	12.9	4	4	13.0
Ohio	8	1,417	11.3	4	3	−18.1	3,355,043	12.6	4	3	−26.7	1,292,590	13.3	3	3	−30.2
New York	3	213	1.7	7	7	−54.1	370,704	1.4	7	7	−62.6	184,313	1.9	7	7	−39.3
All other states	12	1,975	15.7	.....	.....	−19.3	4,275,999	16.0	.....	.....	−28.2	1,581,024	16.2	.....	.....	−19.5

[1] Percentages are based on figures in Table 12; a minus sign (−) denotes decrease.

During the five-year period 1909-1914, of the states for which comparable data are given in the table, only two states show a relative gain in value of products—Pennsylvania, 28.8 per cent, and Alabama, 10.8 per cent. New Jersey, while still leading in production, shows a decrease. Measured by the average number of wage earners, however, the greatest increase—28.4 per cent—appears for Alabama, and the next greatest for Pennsylvania—27.9 per cent. With the exception of Pennsylvania and Ohio, the states held the same rank in value of products in 1914 as in 1909. Pennsylvania ranked third in 1914, having exchanged places with Ohio.

Persons engaged in the industry.—Table 3 shows, for 1914 and 1909, the number of persons engaged in the industry, distributed by sex, the average number of wage earners being distributed also by age. The sex and age classification of the average number of wage

earners in this and other tables is an estimate obtained by the method described in the "Explanation of terms."

Table 3

CLASS.	Census year.	PERSONS ENGAGED IN THE INDUSTRY. Total.	Male.	Female.	Per cent of total. Male.	Female.
All classes	1914	13,290	13,190	100	99.2	0.8
	1909	12,883	12,831	52	99.6	0.4
Proprietors and officials	1914	188	187	1	99.5	0.5
	1909	192	192	.....	.....	.....
Proprietors and firm members	1914	8	8	.....	100.0	.....
	1909	7	7	.....	100.0	.....
Salaried officers of corporations	1914	78	78	.....	100.0	.....
	1909	61	61	.....	100.0	.....
Superintendents and managers	1914	102	101	1	99.0	1.0
	1909	124	124	.....	100.0	.....
Clerks and other subordinate salaried employees.	1914	545	459	86	84.2	15.8
	1909	464	424	40	91.4	8.6
Wage earners (average number)	1914	12,557	12,544	13	99.9	0.1
	1909	12,227	12,215	12	99.9	0.1
16 years of age and over	1914	12,507	12,494	13	99.9	0.1
	1909	12,154	12,142	12	99.9	0.1
Under 16 years of age	1914	50	50	.....	100.0	.....
	1909	73	73	.....	100.0	.....

The average number of persons engaged in the industry in 1914 was 13,290, of whom 12,557, or 94.5 per cent were wage earners; 188, or 1.4 per cent, proprietors or officials; and 545, or 4.1 per cent, clerks and other subordinate salaried employees. Of the total number of persons engaged in the industry, 99.2 per cent were males. Less than 1 per cent of the total number were under 16 years of age.

Wage earners employed, by months.—The following table gives, for the industry, the total number of wage earners employed on the 15th of each month, or the nearest representative day, for the years 1914 and 1909, together with the percentage which the number reported for each month forms of the greatest number reported for any month.

Table 4

MONTH.	WAGE EARNERS IN THE INDUSTRY. Number. 1914	1909	Per cent of maximum. 1914	1909
January	11,816	11,113	88.0	84.4
February	12,572	11,147	93.6	84.6
March	13,193	11,502	98.3	87.3
April	12,701	11,743	94.6	89.1
May	12,613	11,778	93.9	89.4
June	12,849	12,310	95.7	93.4
July	13,221	12,301	98.5	93.4
August	13,427	12,722	100.0	96.6
September	13,211	12,958	98.4	98.4
October	12,555	12,997	93.5	98.7
November	11,336	13,174	84.4	100.0
December	11,190	13,000	83.3	98.7

In 1914 the maximum number employed was 13,427 in August, but in 1909, November, with 13,174, was the month of maximum employment. The minimum number was employed in December in 1914 and in January in 1909. The degree of fluctuation in employment was substantially the same in each year, the percentage, which the minimum number employed represented of the maximum, being 84.4 per cent in 1909 and 83.3 in 1914.

Table 5 gives the total average number of wage earners employed during 1914, together with the total number employed on the 15th of each month, or the nearest representative day, for each state in which the average number of wage earners was 500 or more in 1914.

Table 5

WAGE EARNERS: 1914.

[Month of maximum employment for each state is indicated by **boldface** figures and that of minimum by *italic* figures.]

STATE.	Average number employed during year.	Number employed on 15th day of the month or nearest representative day. January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Per cent minimum is of maximum.
United States	12,557	11,816	12,572	13,193	12,701	12,613	12,849	13,221	**13,427**	13,211	12,555	11,336	*11,190*	83.3
Alabama	3,696	*3,491*	3,740	3,947	3,545	3,553	3,680	3,811	**3,993**	3,780	3,626	3,638	3,548	87.4
New Jersey	3,421	3,399	3,366	3,501	3,572	3,580	3,541	**3,585**	3,538	3,484	3,366	*3,994*	3,126	83.5
Ohio	1,417	1,240	**1,577**	1,546	1,425	1,380	1,378	1,479	1,454	1,495	1,487	1,378	*1,165*	73.9
Pennsylvania	1,835	1,692	1,739	1,857	1,842	1,807	1,892	**1,992**	1,986	1,959	1,978	*1,609*	1,667	80.8

August was the month of maximum employment in Alabama, July in New Jersey and Pennsylvania, and February in Ohio.

Prevailing hours of labor.—In Table 6 the average number of wage earners reported for 1914 and 1909 for the industry has been classified according to the number of hours of labor per week prevailing in the establishments in which they were employed. The number employed in each establishment is classified as a total, even though a few employees worked a greater or less number of hours.

In 1914, 64.2 per cent of the wage earners employed in the industry were in establishments where the prevailing hours were 60 per week, as compared with 76 per cent in 1909, and 34.5 per cent of the wage earners were employed in establishments where the prevailing hours were 54 but less than 60 hours per week, as compared with 20.9 per cent in 1909, showing a drift toward a shorter working day. The table shows the largest numbers in the class "60 hours" per week for both 1909 and 1914 for all the states with the exception of New Jersey in 1914, which shows the largest number—62 per cent of the total—employed between 54 and 60 hours per week. There were no establishments in 1914 or 1909 where the prevailing hours of labor were more than 60 hours per week or between

48 and 54 hours per week, and in 1914 but 1.4 per cent of the total were employed in establishments where the prevailing hours were 48 and under per week, as compared with 3.1 per cent in 1909.

Table 6

STATE.	Census year.	AVERAGE NUMBER OF WAGE EARNERS.					
		Total.	In establishments where the prevailing hours of labor per week were—				
			48 and under.	Between 48 and 54.	54.	Between 54 and 60.	60.
United States	1914	12,557	171	.....	1,303	3,026	8,057
	1909	12,228	378	.....	1,425	1,131	9,294
Alabama	1914	3,696	113	.....	795	802	1,986
	1909	2,878	.....	.....	660	.....	2,218
New Jersey	1914	3,421	.....	.....	100	1,875	1,446
	1909	3,275	.....	.....	189	998	2,088
Ohio	1914	1,417	58	.....	303	.....	1,056
	1909	1,730	378	.....	.....	15	1,337
Pennsylvania	1914	1,835	.....	.....	101	194	1,540
	1909	1,435	.....	.....	1	35	1,399

Character of organization.—The statistics concerning the character of ownership for this industry show that the majority of establishments are owned by corporations. The average number of wage earners employed by this class of establishments represented 97.7 per cent of the total number, while the value of products represented 97.4 per cent of the total for the industry.

Size of establishments.—Table 7 gives, for 1914 and 1909, the number of establishments, average number of wage earners, value of products, and value added by manufacture, with per cent distribution for establishments grouped according to the value of their products.

The statistics for 1914 in comparison with 1909 show a marked decrease in the number of establishments with products valued at $1,000,000 and over, as well as in the number of wage earners and value of products reported by such establishments. These establishments reported 38.4 per cent of the total wage earners and 44.3 per cent of the total value of products for 1914, as compared with 58.1 per cent of the wage earners and 61.6 per cent of the value of products for 1909. As a rule the tendency of industrial enterprises is to become concentrated in large establishments, but in the present case the decrease in the largest group is presumably due, in part at least, to the general depression in the iron and steel industries in 1914 on account of the European war, the big plants responding to trade conditions more quickly than the smaller ones. The production of cast-iron pipe and fittings in 1913, according to the annual statistical report of the American Iron and Steel Institute, exceeded that of 1914 by 105,465 tons. The greatest increases appear for establishments with products valued at $100,000 to $1,000,000. In this group the establishments increased from 28 in 1909 to 37 in 1914 and reported 57.3 per cent of the wage earners and 52.6 per cent of the value of products, as compared with 39.4 per cent and 36.5 per cent, respectively, reported for 1909.

Table 7

VALUE OF PRODUCT.	Census year.	Number of establishments.	Average number of wage earners.	Value of products.	Value added by manufacture.
All classes	1914	59	12,557	$26,650,365	$9,729,224
	1909	52	12,228	29,153,723	10,269,381
Less than $100,000	1914	[1] 14	550	829,449	398,656
	1909	[2] 11	304	540,922	246,709
$100,000 to $1,000,000	1914	37	7,190	14,027,571	5,684,793
	1909	28	4,815	10,641,104	3,920,565
$1,000,000 and over	1914	8	4,817	11,892,345	3,645,775
	1909	13	7,109	17,971,697	6,102,047
Per cent distribution: Less than $100,000	1914	23.7	4.4	3.1	4.1
	1909	21.2	2.5	1.9	2.4
$100,000 to $1,000,000	1914	62.7	57.3	52.6	58.4
	1909	53.8	39.4	36.5	38.2
$1,000,000 and over	1914	13.6	38.4	44.3	37.5
	1909	25.0	58.1	61.6	59.4

[1] Includes one establishment with products valued at less than $5,000 and two establishments each with products valued from $5,000 to $20,000.
[2] Includes one establishment with products valued at less than $5,000 and one establishment with products valued from $5,000 to $20,000.

Table 8 shows the size of establishments in 1914 and 1909, as measured by the number of wage earners employed, for the industry as a whole and for four leading states.

Table 8

STATE.	Census year.	TOTAL.		ESTABLISHMENTS EMPLOYING—													
				1 to 5 wage earners.		6 to 20 wage earners.		21 to 50 wage earners.		51 to 100 wage earners.		101 to 250 wage earners.		251 to 500 wage earners.		Over 500 wage earners.	
		Establishments.	Wage earners (average number).	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.
United States	1914	59	12,557	2	8	3	39	4	132	12	984	18	2,589	14	4,825	6	3,980
	1909	52	12,228	2	3	3	47	4	142	10	786	15	2,391	13	5,403	5	3,456
Alabama	1914	20	3,696	1	4	2	31	1	35	3	237	8	1,149	3	988	2	1,252
	1909	14	2,878	.....	.....	.....	.....	2	74	3	244	5	705	4	1,855	.....	.....
New Jersey	1914	9	3,421	.....	.....	.....	.....	.....	.....	1	100	3	516	3	1,206	2	1,599
	1909	8	3,275	.....	.....	.....	.....	.....	.....	1	57	3	454	1	470	3	2,294
Ohio	1914	8	1,417	.....	.....	1	8	1	36	2	140	1	115	2	538	1	580
	1909	7	1,730	.....	.....	2	35	.....	.....	.....	.....	2	338	2	730	1	627
Pennsylvania	1914	7	1,835	.....	.....	.....	.....	.....	.....	2	193	2	231	2	862	1	549
	1909	5	1,435	1	1	.....	.....	1	35	.....	.....	.....	.....	2	864	1	535

Of the 59 establishments reported in 1914, 21 employed from 1 to 100 wage earners; 18 employed from 101 to 250 wage earners; and 20 employed over 250. There were only 6 establishments that employed more than 500 wage earners, and none with more than 1,000. In this industry there was no establishment reported without wage earners.

Of the total number of wage earners, 9.3 per cent in 1914 and 8 per cent in 1909 were reported by establishments employing from 1 to 100; 20.6 per cent in 1914 and 19.6 per cent in 1909, by establishments employing from 101 to 250; and 70.1 per cent in 1914 and 72.4 per cent in 1909, by establishments employing more than 250 wage earners.

Engines and power.—Table 9 shows, for 1914 and 1909, for the industry, the number and horsepower of engines or motors employed in generating power (including electric motors operated by purchased current). It also shows separately the number and horsepower of electric motors operated by current generated in the establishments reporting.

The total primary horsepower used in this industry increased 38 per cent between 1909 and 1914. The total horsepower of electric motors reported in 1914 amounted to 28,518, nearly three-fourths of which represented power of motors run by current generated in the establishments reporting. However, the rate of increase for power of this class has not been as rapid as that of the power of motors which are run by rented current.

Fuel.—Table 10 shows, for 1914, the quantity and kind of fuel used for which data were obtained for the industry as a whole and for four separate states.

Table 9

POWER.	NUMBER OF ENGINES OR MOTORS.		HORSEPOWER. Amount.		Per cent distribution.	
	1914	1909	1914	1909	1914	1909
Primary power, total	589	354	25,864	18,737	100.0	100.0
Owned	145	162	17,666	15,950	68.3	85.1
Steam engines and turbines	135	150	15,966	14,385	61.7	76.8
Internal-combustion engines	8	11	1,500	1,505	5.8	8.0
Water wheels, turbines, and motors	2	1	200	60	0.8	0.3
Rented—Electric	444	192	8,198	2,787	31.7	14.9
Electric	1,616	1,189	28,518	19,333	100.0	100.0
Rented	444	192	8,198	2,787	28.7	14.4
Generated by establishments reporting	1,172	997	20,320	16,546	71.3	85.6

Table 10

STATE.	COAL. Anthracite (tons, 2,240 lbs.).	COAL. Bituminous (tons, 2,000 lbs.).	Coke (tons, 2,000 lbs.).	Oil, including gasoline (barrels).	Gas (1,000 cubic feet).
United States	45,663	99,991	248,305	2,036	163,833
Alabama	.....	25,382	88,684	1,067	.....
New Jersey	30,094	17,539	46,146	692	151,013
Ohio	10	23,413	34,896	.....	11,912
Pennsylvania	15,416	16,424	38,294	270	908
All other states	143	17,233	40,375	7	.....

Coke is the principal fuel used in this industry, it being used in the cupola furnaces for melting the iron. It constituted three-fifths of the solid fuels.

SPECIAL STATISTICS RELATING TO PRODUCTS.

The following table shows, by states, the quantity and value of cast-iron pipe and fittings reported for 1914. The quantities are reported in net tons (2,000 pounds).

Table 11

PRODUCT.	UNITED STATES. Tons (2,000 pounds).	UNITED STATES. Value.	ALABAMA. Tons.	ALABAMA. Value.	NEW JERSEY. Tons.	NEW JERSEY. Value.	NEW YORK. Tons.	NEW YORK. Value.	OHIO. Tons.	OHIO. Value.	PENNSYLVANIA. Tons.	PENNSYLVANIA. Value.	ALL OTHER STATES.[1] Tons.	ALL OTHER STATES.[1] Value.
Total value	.....	[2]$26,659,365	.....	$6,754,103	.....	$7,352,798	.....	$370,704	.....	$3,355,043	.....	$4,550,718	.....	$4,275,999
Castings	1,079,584	25,217,687	267,292	6,747,549	265,443	6,400,270	11,862	370,680	155,061	3,229,610	209,701	4,550,718	170,225	3,918,860
Cast-iron pipe and fittings	1,066,003	24,535,950	264,411	6,630,928	263,915	6,338,567	11,772	365,360	152,944	3,100,646	208,604	4,479,442	164,357	3,621,007
Gas and water pipe	880,438	19,035,754	186,415	4,469,284	215,481	4,689,296	876	43,835	150,863	3,019,857	191,179	3,977,619	135,624	2,835,863
Bell-and-spigot pipe	807,396	16,126,690	170,515	3,945,013	193,454	3,828,131	.....	.....	136,816	2,356,499	180,994	3,521,563	125,527	2,475,484
Flanged pipe	21,980	553,871	8,051	176,685	8,918	236,590	.....	.....	3,574	103,537	867	22,185	570	14,874
Culvert pipe	10,952	245,452	2,980	83,651	2,139	41,499	.....	.....	1,475	37,980	704	12,904	3,654	69,418
Fittings	40,200	2,109,741	4,869	263,935	10,970	583,076	876	43,835	8,998	521,841	8,614	420,967	5,873	276,087
Soil and plumbers' pipe and fittings	185,565	5,500,196	77,996	2,161,644	48,434	1,649,271	10,896	321,525	2,081	80,789	17,425	501,823	28,733	785,144
All other castings	13,581	681,737	2,881	116,621	1,528	61,703	90	5,320	2,117	128,964	1,097	71,276	5,868	297,853
All other products	.....	1,441,678	.....	6,554	.....	952,528	.....	24	.....	125,433	.....	.....	.....	357,139

[1] All other states embrace: Georgia, Indiana, Illinois, Maryland, North Carolina, Oregon, Tennessee, and Virginia.
[2] Does not include 54,718 tons of cast-iron pipe and fittings, valued at $1,443,242, made by nine establishments engaged primarily in other lines of manufacture.

The leading states on a tonnage basis are Alabama, New Jersey, Pennsylvania, and Ohio, in the order named, and these states produced more than four-fifths of the tonnage. The bulk of the product is what is known as bell-and-spigot pipe, made with a bell socket at one end, and the other adapted to fit into the bell of a contiguous section.

In addition to the pipe made by the establishments constituting the classified industry, there were 54,718 tons of cast-iron pipe and fittings, valued at $1,443,242, made as subsidiary products by establishments in other industries. This comprises 26,087 tons of soil and plumbers' pipe and fittings, valued at $673,512; 21,599 tons of gas and water, and bell-and-spigot pipe, valued at $542,843; and 7,032 tons of other gas and water pipe and fittings, valued at $226,887.

DETAIL STATE TABLES.

The principal data secured by the census inquiry concerning cast-iron pipe, other than those relating to quantity and value of specific products, are presented, by states, in Tables 12 and 13.

Table 12 shows, for 1914 and 1909, by states, the number of establishments, average number of wage earners, primary horsepower, wages, cost of materials, and value of products for the industry. Table 13 gives for 1914 more detailed statistics of the industry, by states.

TABLE 12.—CAST-IRON PIPE—COMPARATIVE SUMMARY, BY STATES: 1914 AND 1909.

STATE.	Census year.	Number of establishments.	Wage earners (average number).	Primary horsepower.	Wages.	Cost of materials.	Value of products.
					Expressed in thousands.		
United States	1914	59	12,557	25,864	$7,076	$16,930	$26,659
	1909	52	12,228	18,737	6,502	18,884	29,154
Alabama	1914	20	3,696	6,130	2,454	3,907	6,754
	1909	14	2,878	4,632	1,393	3,706	6,097
New Jersey	1914	9	3,421	4,785	1,991	4,784	7,353
	1909	8	3,275	4,095	1,951	5,355	8,003
New York	1914	3	213	293	124	186	370
	1909	4	464	1,052	268	687	990
Ohio	1914	8	1,417	7,387	888	2,063	3,355
	1909	7	1,730	3,158	900	2,722	4,575
Pennsylvania	1914	7	1,835	4,062	1,029	3,295	4,551
	1909	5	1,435	2,531	711	2,423	3,534
All other states	1914	12	1,975	3,207	990	2,695	4,276
	1909	14	2,446	3,729	1,279	3,991	5,955

TABLE 13. CAST-IRON PIPE—DETAIL STATISTICS, BY STATES: 1914.

STATE.	PERSONS ENGAGED IN THE INDUSTRY.								WAGE EARNERS DEC. 15 OR NEAREST REPRESENTATIVE DAY.				Capital.	EXPENSES.	
	Number of establishments.	Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks, etc.	Wage earners.			Total.	16 and over.		Under 16.		Salaries and wages.	
					Male.	Female.	Average number.	Number, 15th day of— Maximum month.	Number, 15th day of— Minimum month.		Male.	Female.	Male.		Officials.	Clerks, etc.
United States	59	13,290	8	180	459	86	12,557	Au 13,427	De 11,190	13,099	13,035	14	50	$26,981,070	$501,056	$535,353
Alabama	20	3,876	5	53	111	11	3,696	Au 3,993	Ja 3,491	4,039	4,000	.....	39	5,384,349	135,972	141,170
New Jersey	9	3,636	3	26	163	23	3,421	Jy 3,585	No 2,994	3,438	3,427	6	5	7,508,602	112,799	174,854
New York	3	224	.....	5	4	2	213	Mh 233	No 196	198	198	.....	.....	401,228	7,064	5,852
Ohio	8	1,532	.....	29	69	17	1,417	Fe 1,577	De 1,165	1,473	1,470	3	.....	4,266,729	62,301	79,535
Pennsylvania	7	1,945	.....	27	64	19	1,835	Jy 1,992	No 1,609	1,789	1,779	4	6	5,241,345	85,959	76,786
All other states[1]	12	2,077	.....	40	48	14	1,975	.....	.....	2,162	2,161	1	.....	4,178,817	96,761	57,056

STATE.	EXPENSES—continued.						Value of products.	Value added by manufacture.	POWER.					
	Salaries and wages—Continued.	For contract work	Rent and taxes.		For materials.				Primary horsepower.					Electric horsepower generated in establishments reporting.
	Wage earners.		Rent of factory.	Taxes, including internal revenue and corporation income.	Principal materials.	Fuel and rent of power.			Total.	Steam engines.	Internal-combustion engines.	Water wheels and motors.	Electric (rented).	
United States	$7,075,976	$2,672	$7,363	$159,863	$15,583,909	$1,346,232	$26,659,365	$9,729,224	25,864	15,966	1,500	200	8,198	20,320
Alabama	2,054,338	.....	120	37,344	3,577,308	329,949	6,754,103	2,846,846	6,130	3,920	30	.....	2,180	3,954
New Jersey	1,991,079	.....	.....	42,672	4,379,581	403,870	7,352,798	2,769,097	4,785	3,155	1,450	.....	180	6,128
New York	124,117	226	.....	2,198	168,801	17,590	370,704	184,313	293	90	.....	.....	203	.....
Ohio	888,209	.....	.....	27,727	1,875,960	186,493	3,355,043	1,292,590	7,387	5,000	20	.....	2,367	5,021
Pennsylvania	1,028,490	.....	2,900	25,316	3,084,740	210,624	4,550,718	1,255,354	4,062	1,866	.....	.....	2,196	3,941
All other states[1]	989,743	2,446	4,343	24,606	2,497,269	197,706	4,275,999	1,581,024	3,207	1,935	.....	200	1,072	1,276

[1] All other states embrace: Georgia, 1 establishment; Indiana, 2; Illinois, 1; Maryland, 1; North Carolina, 1; Oregon, 1; Tennessee, 2; Virginia, 3.

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